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ABSTRACT

This analysis of the findings of the National Assessment of Educational Progress (NAEP) in 1996 for North Carolina documents the state's substantial and sustained gains in educational achievement since 1990. The education reforms of the 1980s are beginning to pay off in North Carolina. It has moved from its historic position at the bottom of all states in academic performance to at, or near, the national average and above all southern states, including Virginia, Georgia, and Florida. North Carolina's 17-point gain in eighth-grade mathematics for the 6 years reported by the NAEP is twice the national average gain, and approximately 50% higher than the gain by any other state in the nation. The 11-point gain in mathematics at grade 4 is almost 3 times the national average gain. North Carolina students have improved the equivalent of one additional grade level during this decade. Furthermore, improvements in performance were uniformly distributed by race, gender, education level of parents, and family income levels, except for black students, who scored relatively better than their national counterparts, and eighth-grade girls, who scored below eighth-grade girls nationally. It took more than a decade of planning, design, and implementation of the state's school reform efforts, but the effects are beginning to be apparent. (Contains nine exhibits.) (SLD)

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ED 414 304

A Preliminary Analysis of the 1996 National Assessment of Educational Progress (NAEP)

The Class of 2000

A Special Report

Presented to

Governor James B. Hunt, Jr.

Prepared by

The Center for Research in Education
Research Triangle Institute
Research Triangle Park, North Carolina

March 10, 1997

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The Class of 2000

A Special Report

Presented to

Governor James B. Hunt, Jr.

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March 10, 1997

Prepared by Suzanne E. Triplett

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Background

1. **No other state has ever experienced the substantial, sustained gains demonstrated by North Carolina's schools since 1990. Today, North Carolina's public schools are performing as well as other schools in the country and at a higher level than all other southern states.**

2. **North Carolina's education reform initiatives of the 1980's have begun to pay off in terms of dramatically increased student performance in mathematics. For example, North Carolina**

   - redesigned its mathematics curriculum standards around the national mathematics curriculum endorsed by the National Council of the Teachers of Mathematics with higher order skills for all students.

   - emphasized mathematics performance for all students and was one of the first states to require Algebra 1 for high school graduation.

   - strengthened teacher preparation and increased standards for teachers, including incentives for teachers to participate in National Board Certification.

   - monitored implementation of its new curriculum with end-of-grade and end-of-course tests aligned with the new curriculum and similar to NAEP's higher order skills, more challenging items, and reporting based on grade level proficiencies.

   - provided local flexibility with more accountability for local schools and school districts.

3. **It took more than a decade of planning, design, and implementation of the state's school reform efforts for the state to begin to see the benefits.**

   North Carolina's early implementation of significant reform efforts (many initiated before the 1983 *Nation at Risk* Report) positioned the state for early dramatic improvements in student achievement compared to other states with more resources, higher teacher salaries, and fewer challenges based on student demographics.

Findings

1. **The National Assessment of Educational Progress (NAEP) is the only appropriate measure for comparing North Carolina's academic performance to the nation and other states.**

   - NAEP is administered to a representative sample of all students in the nation and in individual states.[1]

   - North Carolina's End-of-Grade Test, administered annually to all students, is linked with NAEP (8th Grade Mathematics).

2. **North Carolina has moved from its historic position at the bottom of all states in student academic performance to at or near the national average and above all southern states including Virginia, Georgia, and Florida.**

   - North Carolina's 17-point gain in 8th grade mathematics for the six years reported by NAEP is twice the national average gain (8 points) and approximately 50 percent higher than the gain by any other state in the nation; the state's average performance was just short of the national average.

   - The state's 11-point gain in 4th grade mathematics from 1992 to 1996 is almost three times that of the national average gain (4 points) and places the state above the national average for 4th grade.

3. **North Carolina students have improved the equivalent of one additional grade level during this decade. In other words, during the six years from 1990 to 1996, North Carolina students achieved the equivalent of seven years of growth.**

   - The estimated level of improvement for North Carolina's 8th grade mathematics score ranges from 0.75 grade level equivalent to 1.50 grade equivalent. In other words, 8th grade students in 1996 were a full year ahead of 8th grade students in 1990.

   - The estimated level of improvement for 4th grade mathematics ranges from 0.75 to 1.00 grade level equivalent.

[1] By comparison, the Scholastic Assessment Test (SAT) is administered only to college-bound students (primarily the state's A and B students).

4. North Carolina's 4th and 8th grade black students scored 5 points above black students nationally. North Carolina's black students are closing the gap with white students in the state and nation.

5. North Carolina's improvements in performance were uniformly distributed by race, gender, education levels of parents, and family income levels, except for black students (as noted above) who scored relatively better than their national counterparts and for 8th grade females who scored 5 points below 8th grade girls nationally.

Summary

North Carolina educators and teachers in particular are to be congratulated, commended, and, indeed, should be rewarded for the unprecedented rise in student academic performance during the decade.

- The focus on reading, writing, and mathematics; high academic standards for all students; increased rigor in all academic areas; and accountability for improved student performance must be maintained to sustain the substantial gains made by our schools.

- The state's high schools must be strengthened in order to challenge the higher achieving freshmen.

- Teachers are required to teach more students more content and skills at higher levels to meet the needs of higher performing students. Additional professional development, classroom resources, and instructional support are essential to sustain the changes in schools.

- Low performing schools in North Carolina must be provided specific guidance and support needed to achieve higher levels of academic performance for all students.

- Momentum is building across the country to implement school reforms that will provide productivity gains equal to North Carolina's. North Carolina is an ideal model among states for systematic, comprehensive school improvement programs.

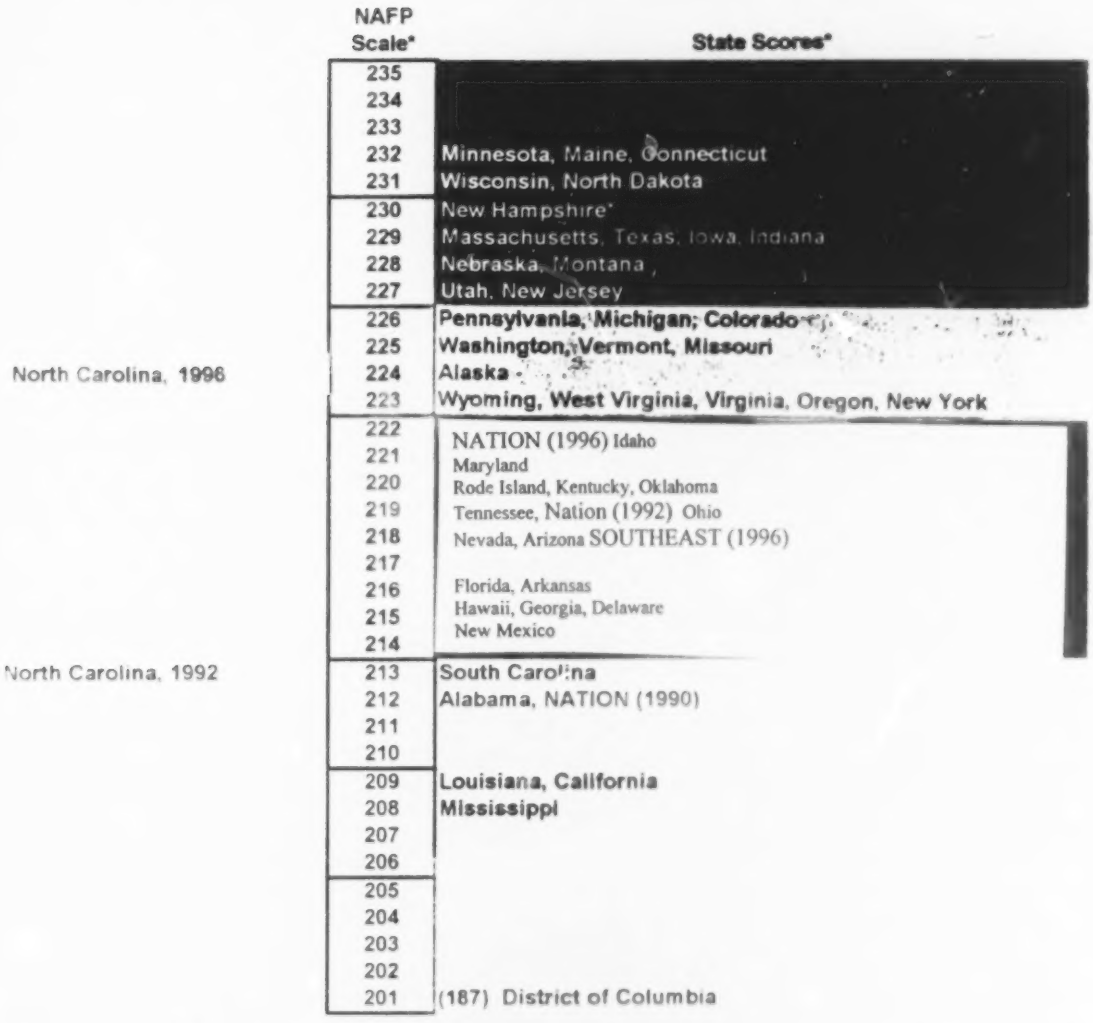
- Businesses and industries looking for a progressive state with a progressive education system need to know about the state's new status among all states. A public awareness campaign must be implemented within the state, nationally, and internationally for *telling the good news* of North Carolina's public schools today. Old perceptions must be replaced with the new reality.

- The Class of 2000 will be the best educated, highest performing graduates ever in the history of our state. The social and economic impact of the Class of 2000 must be studied for determining capacity to meet the needs of these higher achieving students and the long term effects on our institutions of higher education, employment training, and job availability.

- Will the state be ready for the Class of 2000? Will these individuals have to go elsewhere for challenging post secondary education and job training and to find jobs commensurate with their advanced knowledge and skills?

Exhibits

1996 National Comparisons
Grade 4 Mathematics



*RTI Vector Scale© based on State Averages, 1992 Standards. If no 1996 score, data from 1992 are shown.

Scale*: Very Low | Low | Fair | Adequate | Good | Excellent | Superior

RTI Vector

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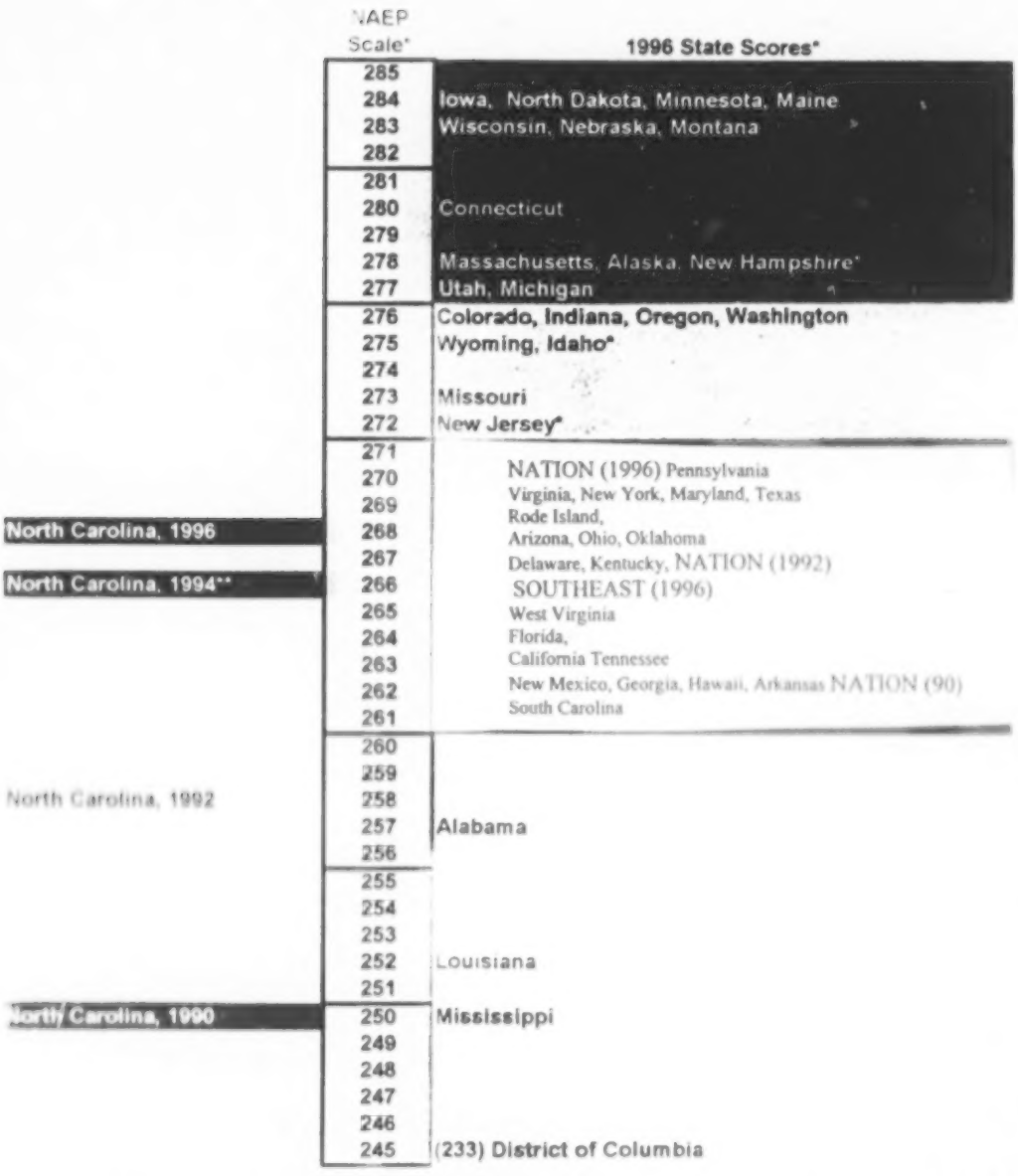
1996 National Comparisons
Grade 8 Mathematics



*RTI Vector Scale based on State Averages. 1992 Standards. If no 1996 score, data from 1992 are shown
** Special NAEP Study was conducted in North Carolina

Scale: Very Low | Low | Fair | Adequate | Good | Excellent | Superior

RTI Vector

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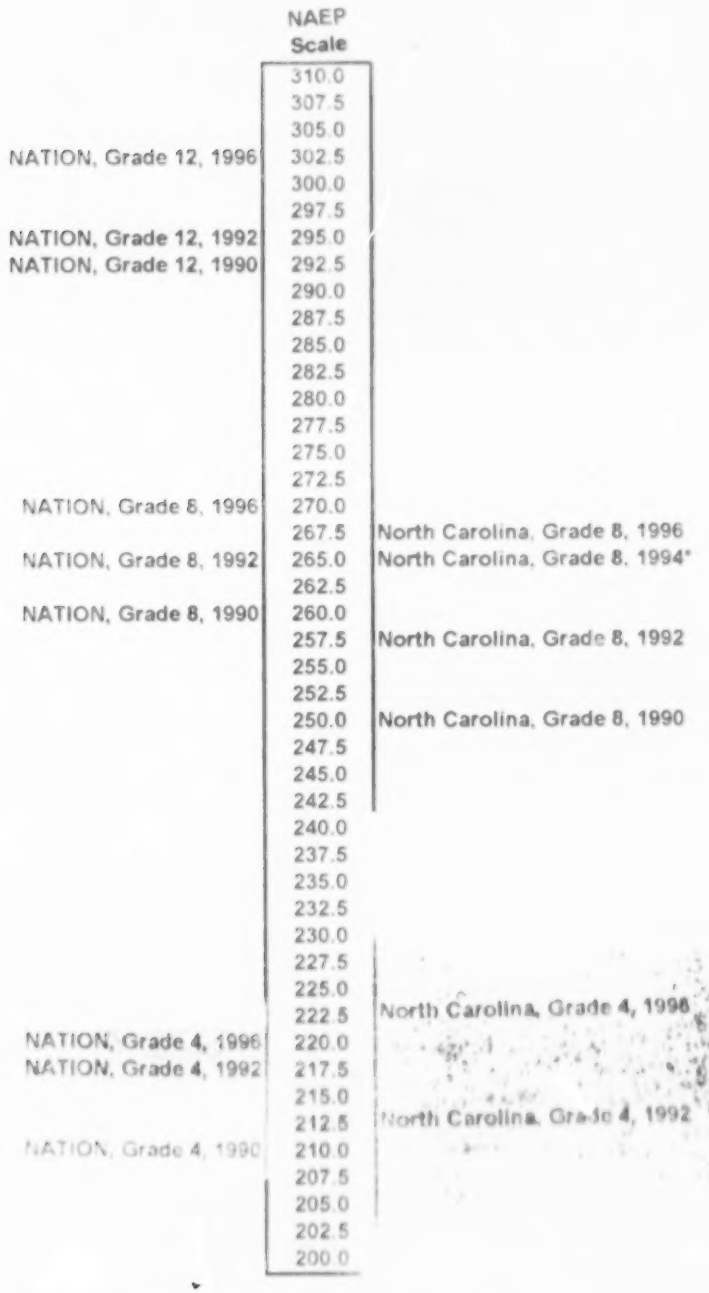
National Comparisons
Grades 4, 8, and 12 Mathematics



*Special NAEP Study in North Carolina.

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National Comparison
Mathematics

	NAEP Scale	1996 State Scores
	310.0	
	307.5	
	305.0	
NATION, Grade 12, 1996	302.5	
	300.0	
NATION, Grade 12, 1992	297.5	
	295.0	
NATION, Grade 12, 1990	292.5	
	290.0	
	287.5	
	285.0	
	282.5	Iowa, North Dakota, Minnesota, Maine, Wisconsin, Nebraska, Montana
	280.0	Connecticut
	277.5	Massachusetts, Alaska
	275.0	Utah, Michigan, Colorado, Indiana, Oregon, Washington, Wyoming
	272.5	Missouri
NATION, Grade 8, 1996	270.0	Virginia, New York, Maryland, Texas
	267.5	Rhode Island, Arizona, NORTH CAROLINA
NATION, Grade 8, 1992	265.0	Delaware, Kentucky, West Virginia
	262.5	Florida, California, Tennessee
NATION, Grade 8, 1990	260.0	New Mexico, Georgia, Hawaii, Arkansas, South Carolina
	257.5	
	255.0	Alabama
	252.5	
	250.0	Mississippi
	247.5	
	245.0	
	242.5	
	240.0	
	237.5	
	235.0	
	232.5	District of Columbia
	230.0	Minnesota, Maine, Connecticut, Wisconsin, North Dakota
	227.5	Massachusetts, Texas, Iowa Indiana, Nebraska, Montana
	225.0	Utah, New Jersey, Pennsylvania, Michigan, Colorado, Washington, Vermont, Missouri
NATION, Grade 4, 1996	222.5	NORTH CAROLINA, Alaska, Wyoming, West Virginia, Virginia, Oregon, New York
NATION, Grade 4, 1992	220.0	Maryland, Rhode Island, Kentucky
	217.5	Tennessee, Nevada, Arizona
	215.0	Florida, Arkansas, Hawaii, Georgia, Delaware
NATION, Grade 4, 1990	212.5	New Mexico, South Carolina
	210.0	Alabama
	207.5	Louisiana, California, Mississippi
	205.0	
	187.0	District of Columbia

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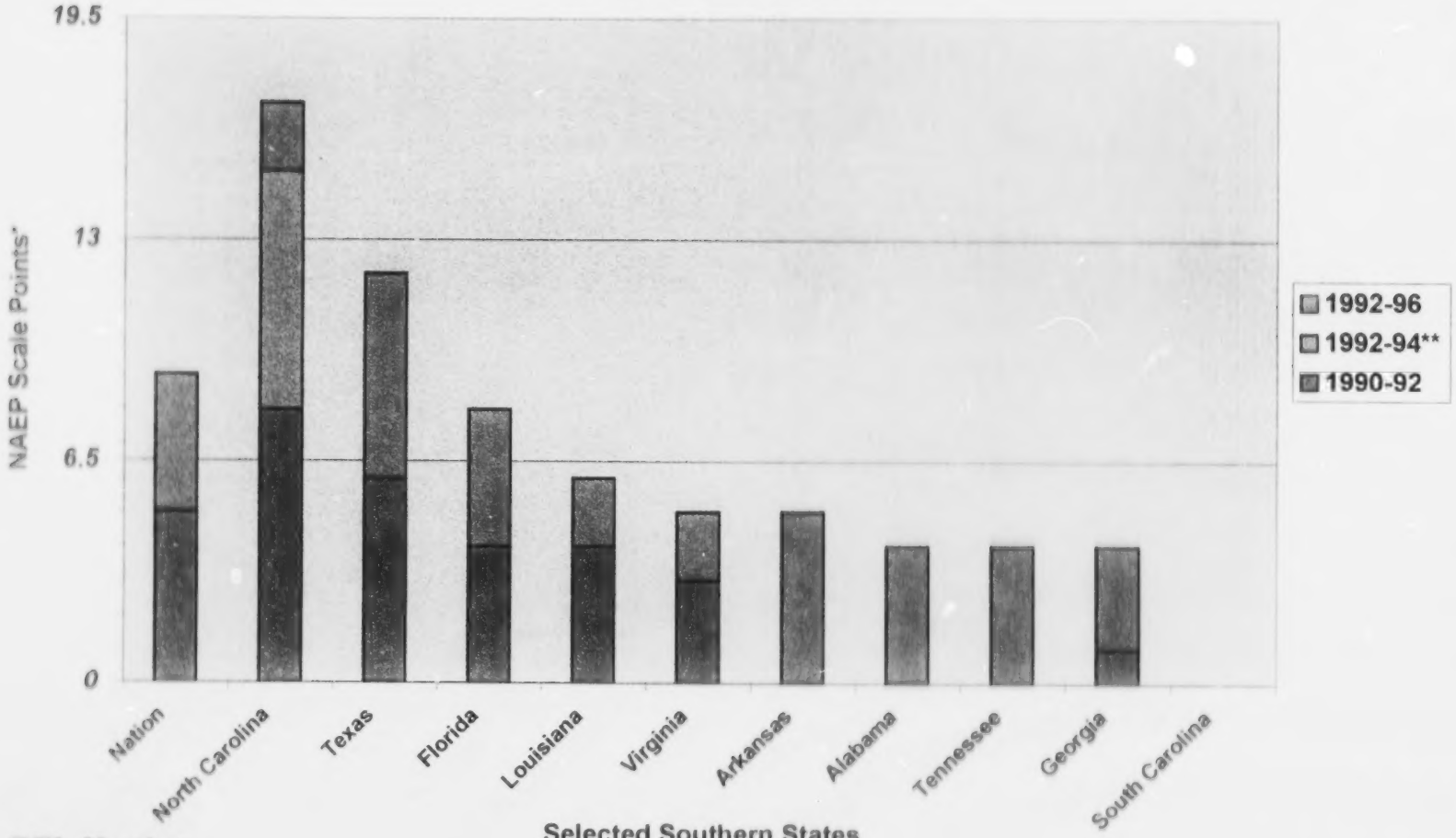
Performance Change 1990-96
Grade 8 Mathematics



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*Estimate 13 points equals one year. ** Special NAEP Study in North Carolina

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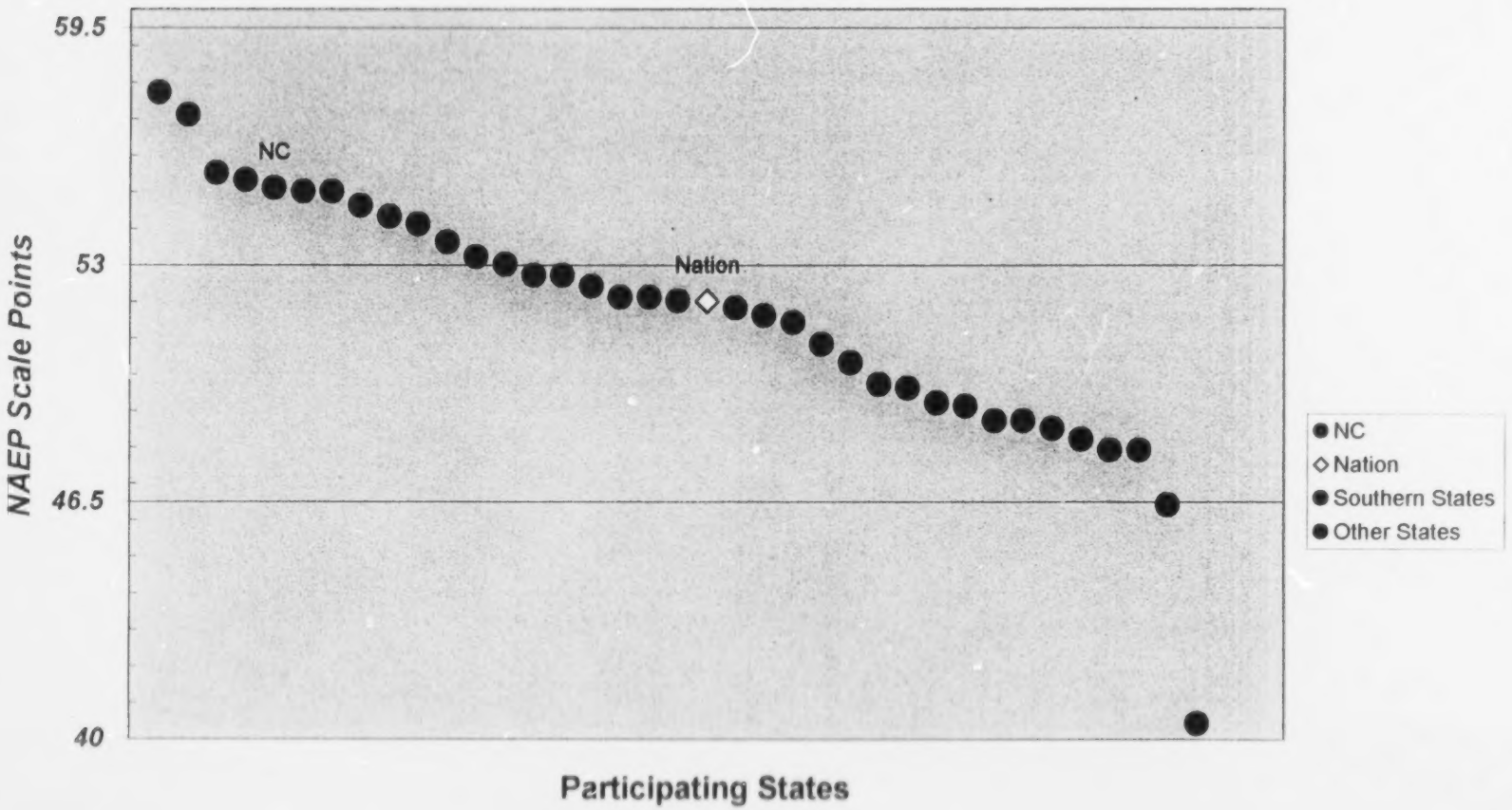
Class of 2000: Growth
Grade 4 (1992) to Grade 8 (1996) Mathematics



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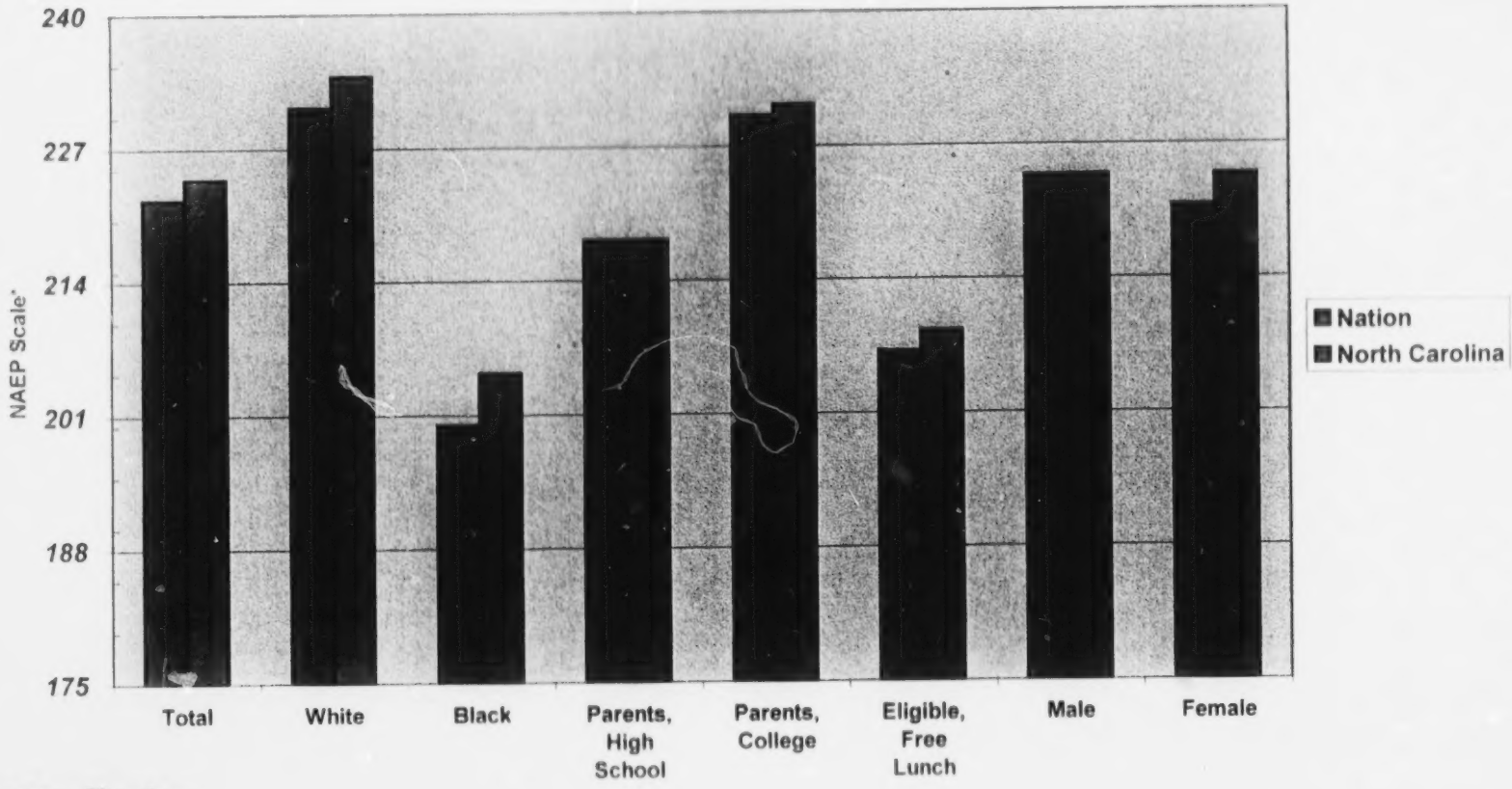
Selected Subgroup Performance, 1996
Grade 4 Mathematics



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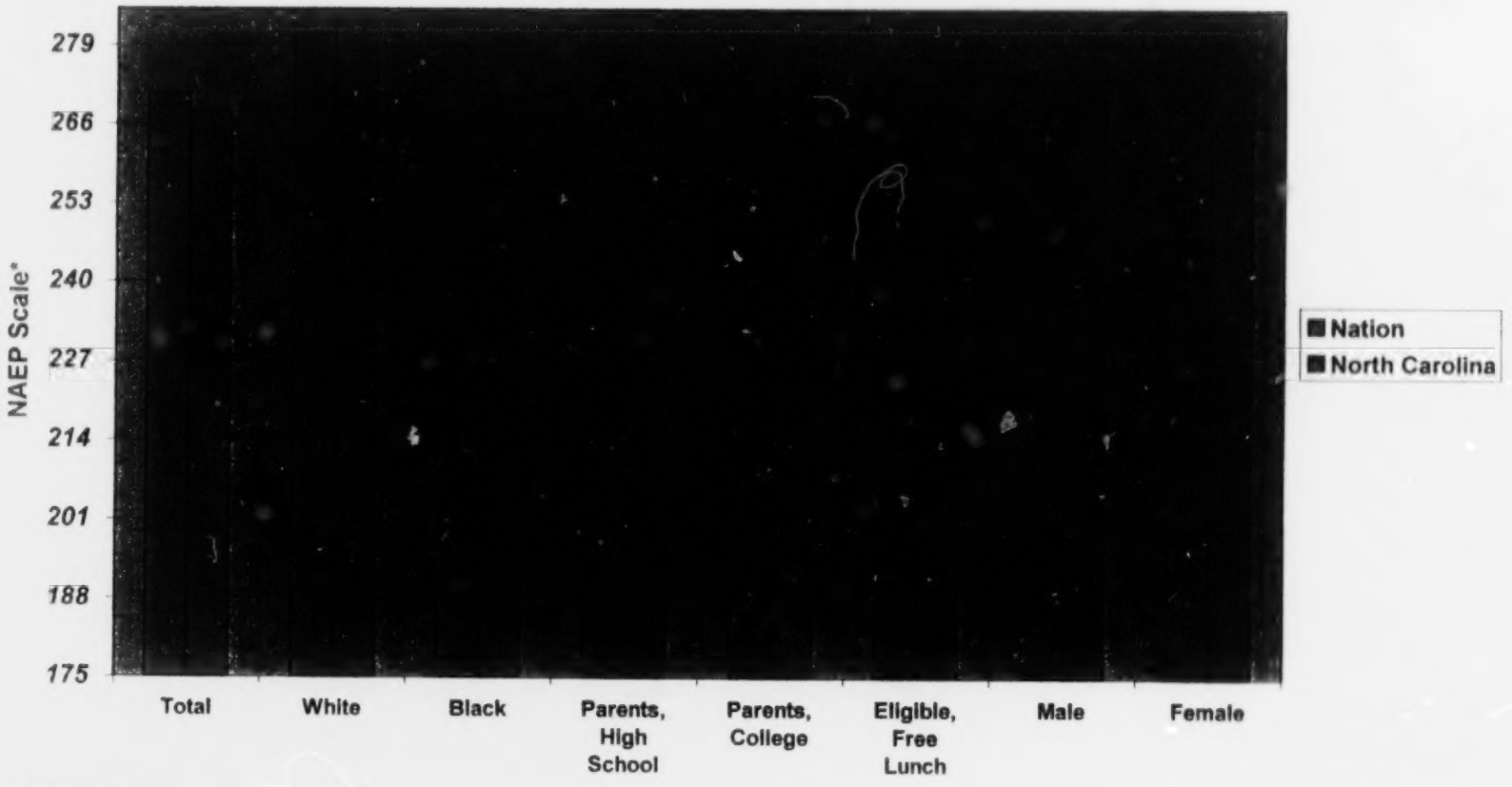
Selected Subgroup Performance, 1996
Grade 8 Mathematics



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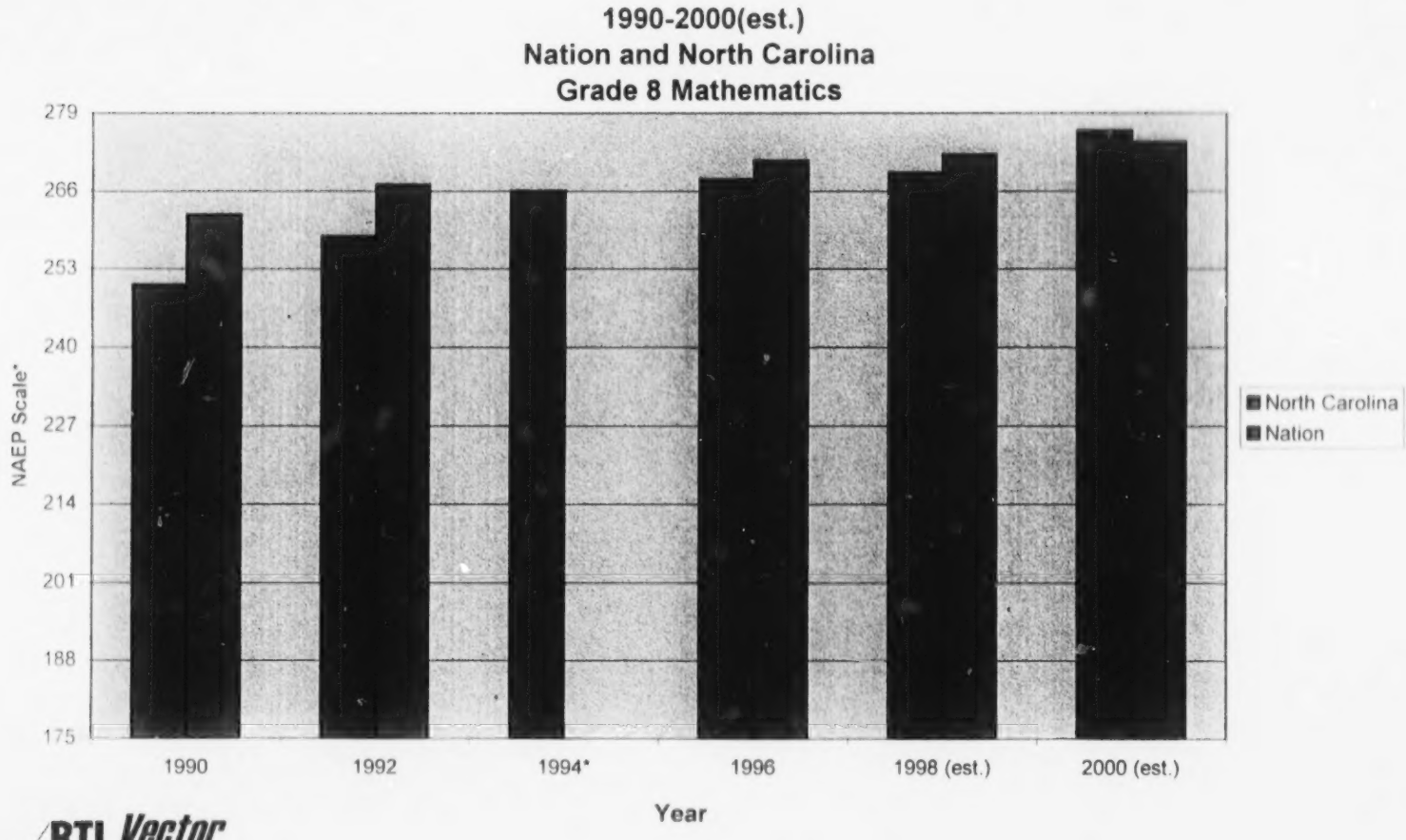

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